

# *Newsletter for Birdwatchers*



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## PALAS FLOOD RELIEF

Following the report on Palas Valley, Pakistan in the last issue of *World Birdwatch* (14,3: 5), events took a dramatic turn in September as the western Himalayas were hit by the heaviest rainfall this century. In Palas, rivers broke their banks drowning two women and destroying over 50 foot-bridges, sections of the main Palas pathway and most watermills. Unable to mill their grain and cut off from the market, 9,000 villagers in the upper Palas region were plunged into a food crisis.

The ICBP/WWF Himalayan Jungle Project responded with over 50 tonnes of food aid, mostly wheat flour, funded by Save the Children Fund (UK), Oxfam and the World Pheasant Association. The flour was trucked up the Karakorum Highway to Pattan, the nearest town, with the help of SUNGI, a local development charity. The Government of Pakistan's Relief Cell provided an MI17 transport helicopter, loaned for relief activities by Uzbek Airways, to lift the food into Palas.

Flying with a full load at tree-top height and locating suitable landing sites on the steep valley slopes made it



Delivering food supplies to the flood-stricken Palas Valley (Photo: J. Eames)

an exciting and at times dangerous operation. Thanks to the skills of Pakistan's 6 Squadron and the Uzbek crew, and loading and refuelling in Pattan by the local administration, the airlift was completed in six days' flying. Equable distribution was arranged through the tribal councils, guided by project field officer Razwal Kohistani. Not surprisingly, the aid has bolstered local goodwill towards the project and its conservation and development objectives.

Despite the airlift, food shortage continues in Palas. Project coordinator Guy Duke is now developing an emer-

gency programme to rebuild bridges, pathways and watermills to return Palas to self-reliance before the harsh winter sets in. There is some consolation in knowing that matters would have been much worse but for Palas' virgin watershed forests. In neighbouring Kaghan Valley where forests have been damaged, catastrophic landsliding brought a heavy death toll, and millions of dollars worth of cut timber swept away by the floods demolished every major road bridge. The logs finally stopped at Mangla Dam, 100 miles downstream, splintered and worthless.



Honey Buzzard *Pernis apivorus* would be affected by the transmitter (Photo: P. Doherty)

## TRANSMITTER PLAN REVIVED

The government of Israel has revived plans to build a huge Voice of America radio transmitter in the Arava Valley, Israel, even though the Environmental Impact Assessment (EIA) ordered by the Israeli court in 1990 is incomplete.

The EIA was ordered after environmentalists voiced considerable opposition to the transmitter (see *World Birdwatch* 12,1-2:3). The transmitter, which would be one of the largest and

most powerful in the world, would cover an 8 km<sup>2</sup> site in the central Arava Valley. The site is on the main migration route of millions of birds, and large numbers would be likely to collide with the structures. There are also concerns about the disorienting effect of the radiation from such a huge transmitter.

ICBP has once again written to the Prime Minister of Israel urging him to seriously consider the environmental consequences of the scheme.

## BOLIVIAN FIND

Charles Munn, Wildlife Conservation International's pioneering macaw researcher, has located the Blue-throated Macaw *Ara glaucogularis* in the wild. This bird, close in appearance to the widespread Blue-and-gold Macaw *A. ararauna*, was hitherto known from museum skins (only three of which were labelled with distributional data) and from birds in trade, but had never been located in the wild by an ornithologist. Evidence suggested that it was confined to the lowlands of Bolivia.

In August this year Munn discovered the species, as predicted, in Bolivia, and WCI now has four nests and other mated pairs under study. Defying the experience of many other investigators, who have laboured long and hard to find the bird, Munn took just three days to make the first contact. Although the species appears not to be abundant, Munn thinks that numbers may be higher than had previously been hoped. Altogether this is excellent news and ICBP warmly congratulates WCI and Charles Munn on a major breakthrough in parrot conservation.



Blue-throated Macaw (Photo: B. Winn/NYZS)

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## EDITORIAL

The Red Kite (*Milvus milvus*)

The Red Kite has apparently been recorded only once in India by sight (no specimens found) by Salim Ali in Kutch in March 1945. This bird was once the common scavenger of London but as is well known it had become almost extinct in England. Recently it has staged a spectacular revival as can be seen from the note in the London Times (February 13, 1993, sent by Aamir Ali) reproduced in this Newsletter.

## Cage Birds

It is now recognised that together with the loss of habitat, trade in wildlife is a major cause for the death of species. India is playing an important part in CITES (The convention on International Trade in Endangered Species of Flora & Fauna) and our readers must do what they can to discourage the keeping of birds as pets in cages, and to protest in any manner which can be effective against the sale of birds in our markets in contravention of law. Mr. Ashok Kumar (Traffic), WWF India, Max Mueller Avenue, New Delhi should be informed about any illegal bird trade which comes to your notice. The article by Preeti Sawhney (reproduced from CEE-NFS Vol 7, 1993) should move us into action.

## Armchair Birdwatching

I am getting increasingly immobile and one reason is the difficulties of travel - overcrowded roads, no room in buses and trains, no open spaces left around where one can stroll and watch birds. In that respect Kodakana was delightful. I recall the activities of Greyheaded Flycatchers, and Black Bulbuls in Bombay Shola, Palni Laughing Thrushes and Pied Bush Chats almost everywhere, flocks of White Eyes in well treed gardens, and thrilling call of the Serpent Eagle overhead.

The lake in Kodai is surprisingly bare of birds. Pond Herons, Wagtails, the Common and Whitebreasted Kingfisher and the occasional Brahminy Kite is the lot. Our attempts (through the help of Prakash Gole) to improve the "ecology" of the lake has unfortunately met with opposition and had to be abandoned. I hope the lake will somehow survive the onslaughts of humanity.

But Bangalore is not really too bad, apart from the distress of seeing one wetland after another desecrated by unthinking planners. Our flat overlooks a large well watered grassy meadow of the Seva Sadan and on the border line of eucalyptus and Sandal trees a Blyth's Reed Warbler is invariably present. If its arrival and departure to distant land, is carefully recorded one can get the feeling of doing "Scientific work". I will keep my eyes open next August for the arrival of this bird to what I think is its wintering niche.

Yesterday I took an English lady for birding to the study area of the UAS at Hebbal. The capacity of Pond I be so visible in flight and so obliterative on the ground fascinated her. The lives of crows, sparrows, mynas, doves, kites are full of mysteries which can keep us engrossed. It seems to me that in our desire to see something unusual and exciting, we miss the pleasures of the commonplace.

But returning to my armchair enjoyments, I relish reading articles which come in for the Newsletter, but I am

conscious that I must put in more effort in editing and commenting on the material which is published. There is always the problem of what to publish first. There is not much "Hot news" in ornithology. Chronological sequence is logical, but not always exciting. Neatly typed and well written articles of course have precedence over untidy hand written ones which call for a great deal of

"investigative journalism". But quite often a badly written piece in poor hand writing contains valuable material, and sooner or later these will surface. Meanwhile to the several contributors who enquire about the fate of their efforts, my advise is that patience is always rewarded.

Incidentally I will be away from my Bangalore armchair till the 1st of June.

## AVIAN FRUGIVORY ON *PERSEA MACARANTHA*, AN EVERGREEN TREE SPECIES, PEECHI-VAZHANI WILDLIFE SANCTUARY

GHAZALA SHAHABUDDIN, P.O. Box 43, Kodaikanal, Tamil Nadu 624 101

In January, 1992, I observed the patterns of avian frugivory on a fruiting tree of the species *Persea macarantha* in Peechi-Vazhani Wildlife Sanctuary in Kerala. My objective was to record the bird species utilizing this isolated fruit resource and to find out if there is any resource partitioning amongst them.

Peechi-Vazhani Wildlife Sanctuary is located in Thrissur District of Kerala and is about 15 km from Thrissur town. Its undulating landscape is mainly covered by dry deciduous and degraded moist deciduous forest occurring in a mosaic with teak plantations. According to scientists at the Kerala Forest Research Institute, Peechi, this area was originally covered by moist evergreen forest, remnants of which still occur. Due to a combination of various human pressures including the conversion of native forest to teak plantations and artificial gardens and firewood collection, the forest type and the associated microclimate have been slowly changing and the primary forests are slowly giving way to deciduous forest. Even the latter are highly degraded in parts.

In spite of this large-scale degradation the sanctuary has an amazing diversity of birds, some of which are known to be restricted to primary forest habitat in the Western Ghats. Our study group carried out a five-day census in this area during which we recorded 80 species including the heartspotted woodpecker, brown fish owl, fairy bluebird, and Indian shama.

The evergreen tree species, *Persea macarantha*, (Family Lauraceae), is said to have been much more common in this area than it is now (as per com. KFRI). The individual tree on which observations were made is among the very few remaining here. It was found growing on a damp stream bed which coursed one of the small valleys in the Sanctuary, reflecting its need for a special microenvironment. The fruit is a 1 to 1.5cm long oval drupe

having a green coat which turns black on attaining ripeness. The tree was about 10m tall and was abundantly covered with mostly ripe fruit.

### Diverse Array of Feeders

In the two days' time that I observed the fruiting tree, a diverse guild of avian visitors (belonging to 10 species) came to feed on the fruit of the study tree and associated insect life.

In decreasing order of total time spent on the tree, the visitors were as follows :

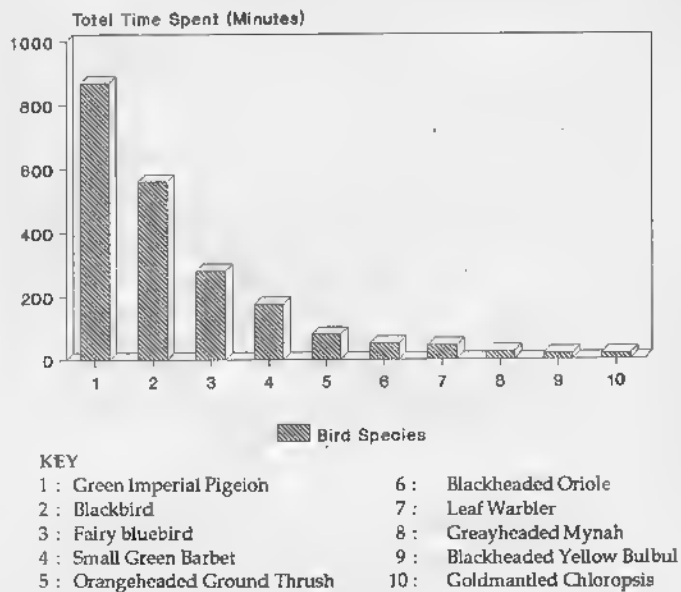
Green Imperial Pigeon (*Ducula aenea*)  
 Blackbird (*Turdus merula*)  
 Fairy bluebird (*Irena puella*)  
 Small Green Barbet (*Megalaima viridis*)  
 Orange-headed Ground thrush (*Zoothera citrina cyanotus* - white-throated subspecies)  
 Blackheaded Oriole (*Oriolus xanthornus*)  
 Leaf-warbler (*Phylloscopus* sp.)  
 Greyheaded Mynah (*Sturnus malabaricus*),  
 Blackheaded Yellow Bulbul (*Pycnonotus melanicterus* *gularis* - rubythroated subspecies)  
 Goldmantled Chloropsis (*Chloropsis cochinchinensis*).

Thus a single fruiting *Persea* tree was found to provide food resource for a diverse array of birds.

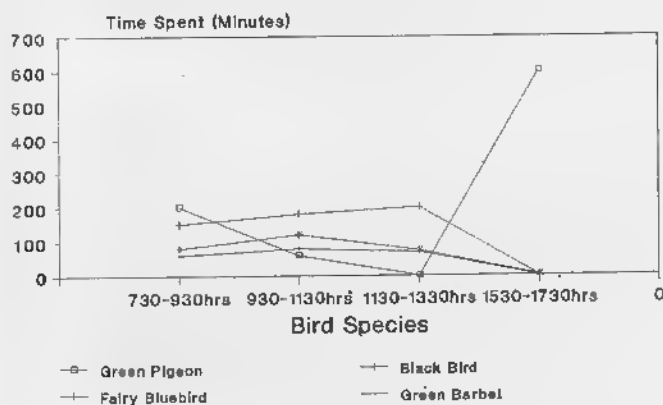
### Individual Feeders

The Green Imperial Pigeon was found to spend the most time on the tree during one diurnal cycle. These large birds visited the tree in flocks of upto eight birds, usually settling down on the tree to feed for two to three hours at a stretch. They confined their foraging activities to the top branches of the tree. A bird would walk slowly along branch until it spotted a ripe drupe which it then plucked off 'carefully' and swallowed whole. One can see from Graph 2 that the feeding activity of this bird was particularly intense during

### Time Spent on Tree in a Day



### Average Time Spent Each of 4 Day-slots



the morning and late afternoon hours. As this bird is exclusively frugivorous, this fruit resource might be crucial to its survival. The habit of swallowing the fruit whole indicates that it might be a significant disperser of the seeds of *Persea macarantha* as they fly long distances during the course of their daily foraging.

The Fairy Bluebird and the Blackbird were far more active feeders, feeding both by sitting and plucking off fruit and by flying to a branch and plucking. They flew to and from the tree, vocalising, trying to frighten off other feeders and settling on branches of other nearby trees. These two bird species were usually alone or in pairs and active in different parts of the canopy at different times. They did not seem to have any particular timetable but their feeding

activities tapered off towards later afternoon. Neither of these two species is exclusively frugivorous, (though the Fairy Bluebird prefers fruit) and this might explain their inconstant behaviour towards this fruiting resource. (see graph 1).

The Small Green Barbet was far more sedentary than the last two species and sat mainly hidden in the interior of the canopy occasionally plucking off fruit from the branches it perched on. This is a species very partial to fruit though it feeds on insects occasionally. This bird's activity also tapered off towards late afternoon. (see Graph 1 and 2)

The Orangeheaded ground Thrush, the Blackheaded Oriole, Greyheaded Mynah, Rubythroated bulbul and the Leaf Warbler spent insignificant amounts of time feeding on the tree. Out of these species one could not be sure which ones were actually feeding on fruit and which on associated insects.

### Conclusions

No time-partitioning in resource utilisation was observed during the short period of observation but species differed in the versatility that they displayed in their manner of feeding, time of feeding and portion of the canopy utilised. It was found that the exclusively frugivorous birds were less versatile than the birds which fed on insects as well, and spent far more time on the tree than the non-exclusive frugivores.

Some of the frugivores observed feeding on the fruit of the tree might be playing a significant role in the dispersal of the seed like the Imperial Green Pigeon. According to studies on seed dispersal of rainforest tree species, fruits evolved for dispersal by specialist frugivorous birds are often drupes of trees belonging to the Family Lauraceae (Whitmore, 1990). *Persea macarantha* might well be one of these.

Frugivores such as the Green Imperial Pigeon can be used as indicators of good habitat quality as they are food specialists. Monitoring changes in the abundance of frugivorous bird species can be an important component of the processes of conservation planning (Starah and Grajal, 1991)

Thus besides affording a lively, colourful spectacle of avian feeders for two days, the study helped me get an insight into an important plant-animal interaction which may be significant to the survival of more than one species.

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## OPPORTUNISTIC FEEDING BY EGRETS

S. SUBRAMANYA, H.P.H.T. Scheme, "J" Block, G.K.V.K., University of Agricultural Sciences, Bangalore 560 065

Mandagadde is one of the less known heronries of Karnataka. Located in the backwaters of Gajanur Dam in Shimoga District, it comprises a 100 x 20m sand covered islet studded with trees (dominated by *Vitex leucoxylon*) and bushes. Between June and September, Little Cormorants *Phalacrocorax niger*, Darter *Anhinga melanogaster*, herons (*Ardeola grayii*, *Nycticorax nycticorax*), egrets (*Egretta alba*, *E. intermedia*, *E. garzetta*) nest at Mandagadde. During the peak breeding season, up to ten thousand birds can be seen engaged in domestic duties.

Accompanied by Sri Bhoja Shetty of WWF - India, Bangalore center, I visited Mandagadde on 20 September 1992. As we visited the site towards the end of the nesting season, I could only see a maximum of about three thousand birds in all. A few cormorants, Darters, Median and Large Egrets could still be seen nesting. A large number of Large and Median Egrets had fledglings still dependent on them.

While the parents busied themselves in feeding their fledglings up in the trees, a few egrets could be seen roaming on the sandy surface of the islet. They frequently darted around. Occasionally they chased one another and at times, this animosity went to the extent of chasing and pushing other egrets off the islet, even into water. Though I could not understand this unusual behaviour at first, a careful analysis of the situation revealed that these egrets that roamed the sandy surface of the islet were in fact searching for fishes and frogs. In birds that are adept at foraging in shallow waters, this new feeding site appeared quite unusual. However, the prey did not occur on the sand by their own volition, but literally rained from above, thanks to the begging fledglings that were being fed by their parents.

Whenever a parent egret returned from its feeding ground, it was solicited by its ever hungry fledglings. The number of such fledglings varied from one to three. Initially, crouching low on the branch, with their beaks parted and wings half spread, the fledglings would beg the parent for food. When this action elicits no response, one of the fledglings would seize the parent's beak with its own mandibles and twist and wrestle the beak vigorously till the parent disgorges food into its mouth. Due to the violent jostling of the parent's beak by the fledgling and repeated attempts by other siblings to get at the food, the prey would often slip and drop down to the ground. The egrets on the ground below would wait for such prey and seek them out no sooner they hit the sand.

### Family Size in Egrets

During my observation, I counted sixty families of egrets (parent + fledgling(s)) engaged in the process of food transfer. Of these, 58 families belonged to Median Egrets. The egret families varied with respect to the number of fledglings that solicited their parents. Table 1 gives details on the family sizes in Median and Large Egrets. From the Table it can be seen that, while most Median Egret parents had two fledglings, Large Egrets had three fledglings in their families. Interestingly, I did not come across any egret family with both the parents in attendance.

### Loss of Prey

In all, I could only observe a total of twenty one prey items that slipped and dropped to the ground. From a watch tower about eighteen meters away and with the help of a 10 x 50 field glasses, I could clearly identify the prey that dropped down to the ground. Except for two crabs and three frogs, rest of the prey were fishes. Of these, only sixteen items were secured by the waiting egrets below, and the rest were lost among the bushes.

### Foraging methods in Egrets

Foraging egrets adopted different methods to secure the prey. Some of the egrets stood motionless, looking around them (never above!) waiting patiently and no sooner the prey hit the ground, they ran towards the prey and secured it (Method 1). A few other egrets sedately wandered around and grabbed the prey if it fell anywhere close by (Method 2). Rest of the egrets kept wandering around and the moment any egret located and ran to secure the prey, they dashed towards the egret and tried to grab the prey before the other could. If an egret had already secured the prey, these egrets would often chase the one with the prey till it parted with the prey (Piracy) or flew off the islet. While adopting Method 1 and 2, the egrets appeared to depend on their ears to locate the prey. The number of Large, Median and Little Egrets foraging on the ground were five, twelve and nine, respectively.

### Loss of Prey and Family Size in Egrets

Despite the small sample size, the dropping of prey during food transfer from parent to a fledgling appears to be a function of family size. The highest number of prey was dropped by both Median and Large Egrets with three fledglings (see Table 2). Obviously, in larger families of egrets, intense sibling competition for obtaining food brought by parents disrupts successful food transfer due to interference. This sibling interference often leads to the dropping of prey item to the ground.

The foraging method of egrets detailed above is clearly an indication of an opportunistic mode of feeding, until now not reported in literature. It has long been known that opportunism is an adaptive strategy among birds and birds resort to opportunistic feeding when food becomes scarce in time and space. Under such unpredictable situations, to maximize their food intake, birds are expected to exploit resources as and when they become available. Thus, the opportunistic foraging by egrets at Mandagadde may well serve this function. It would be interesting to know if similar pattern of feeding occurs elsewhere under comparable conditions.

Table 1 : Family size in egrets

Egret Species	No. of Fledglings per Family		
	One	Two	Three
Median Egret	14	37	7
Large Egret	2	4	5

Table 2 : Number of prey lost by different egret families

Egret Species	No. of Fledglings per Family		
	One	Two	Three
Median Egret	2	4	6
Large Egret	-	3	6

## BLACKNECKED CRANES WINTERING IN BHUTAN

COL R T CHACKO (Retd), A-301 Spartan Heights, 16, Richmond Road, Bangalore 560 025, India

The author conducted a full winter study from Oct 1991 to Apr 1992 on the Blacknecked Cranes wintering in Bhutan. His new findings include a migration route, three previously unknown roosting areas and two staging areas used by them during their migration to Bhutan. He highlights the need to monitor the wintering population in Bhutan and to take short and long term measures to protect the Cranes and their habitat. This study was sponsored by the OBC (UK) and the Forestry Department of the Royal Government of Bhutan.

The Blacknecked Cranes (*Grus nigricollis*) was the last of the 15 species of cranes to be discovered in 1876 by Przewalski, the Russian naturalist and explorer, near Lake Koko Nor in what is now the Qinghai province of North East Tibet. They breed and spend the summer months in China, Ladakh and Tibet and they winter in Bhutan and the South Eastern parts of China and Tibet.

Observations and census recorded at the known feeding and roosting areas since 1987 clearly indicate that their numbers are decreasing and in some areas in Bhumthang, Central Bhutan they are no longer seen. This is mainly due to human interference in their habitat. There was no

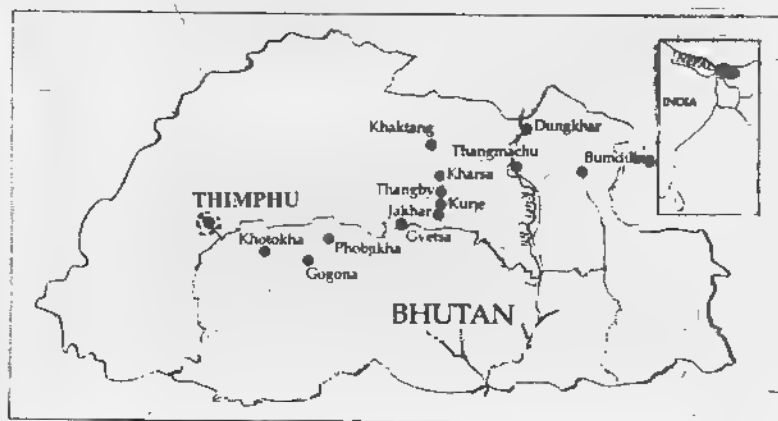
information available on their migration route and staging areas. This study was mainly to get accurate data on their population, effects of human activities on the Cranes and their habitat.

These Cranes arrive in Bhutan during the last week of October in small groups of 2 to 20; one or two pairs or family groups arriving first in Phobjikha and Bumdiling. (See map). There are three main areas where they roost in Western, Central and Eastern Bhutan. This study discovered that they follow the course of the Kuri Chu (River) to come to Bhutan and to return to their breeding areas at the end of winter. Some families with very young juveniles, possibly late hatchings, use Dungkhar and Thangmachu on the Kuri Chu as staging areas during their Southward journey, but these sites are not used on their return journey as the young ones had grown by the end of winter. Other migration routes, if any, are still not known.

All the known and reported feeding and roosting areas were covered during the study. (See Table 1)

Table 1 : Areas covered during the study

Location	Altitude, m	Remarks
<b>Western Bhutan</b>		
Gogona	3,050	Feeding area
Khotokha	2,720	New roosting area discovered
Phobjikha	3,000	Roosting area
Samteygang	2,400	Abandoned roosting site
<b>Central Bhutan</b>		
Gyetsa	2,750	New roosting area discovered
Jakhar - Kurje	2,650	Abandoned feeding area



Kharsa – Khaktang	2,870	Feeding area
Thangby – Kharsa	2,750	New roosting area discovered
Eastern Bhutan		
Bumdiling	1,950	Roosting area
Dungkhar	2,800	Staging area discovered
Thangmachu	1,770	Staging area discovered

The total number of adults and juveniles identified were recorded at roosting areas as they came in the evenings and the following morning when they left. Local Forestry staff and volunteers counted the cranes from different hides and their variations, if any, in the numbers even in large flocks were never more than one bird. The counts at the roosting sites are given in Table 2.

Table 2: Blacknecked Cranes and juveniles identified in roosting areas

Location	Juv	Total	% Juv
Bumdiling	26	160	16.2
Gyetsa Thangby	5	13	38.4
Khotokha	2	10	20.0
Phobjikha	22	133	16.5
Total	55	316	17.4

The Cranes daily routine, feeding habits and movements were studied. They usually left the roosting areas at 0730 hrs. At the feeding areas, they were seen eating grains, insects, molluscs and plant tubers. They stopped foraging by late morning and during these rest periods, juveniles sat down whilst the adults preened or stood on one leg, with one of the adults keeping vigilance. They spent most of the afternoon foraging and returned to the roost after 1700 hrs.

Normally, the returning Cranes were guided back to their roosting area by calls from an elderly pair that stayed back for the day at the roosting site. The loud unison calls of the elderly pair and the reply calls of the returning Cranes was like an air traffic controller guiding aircraft to land on a runway. The reply calls from the returning cranes could be heard well before they were seen and it was a beautiful sight to see a group break out of the clouds, lose height rapidly and land at the roosting site.

Unlike other roosting areas, the few families using Khotokha, Gyetsa and Thangby valleys roosted on marshy hill slopes well hidden by Pine trees. They always arrived quietly and remained silent during night at these sites. These three roosting sites were discovered for the first time.

In Bumdiling, when there was heavy ground frost and the water was frozen everywhere except the Kolong Chu, the Cranes were seen roosting in a line on a bend in the river where the water was shallow.

One interesting activity was observed in Phobjikha on mornings when there was hardly any wind. Four to six pairs would walk up the slope of a small hill 25–30 m high and jump into the wind to take off like a hang glider pilot and thus gain height without much effort.

The reduction in the population of Blacknecked Cranes wintering in Bhutan is mainly because of drainage of the marshy habitat for development of pasture land. Also, in the old traditional farming methods, fallen grains from the harvest in October would remain undisturbed in the fields until April the following year, thus providing plenty of food for the Cranes. Now, the introduction of mechanised farming and ploughing during winter months has resulted in the reduction of their feeding areas.

Because of their religion (Buddhism), tradition and sentiments, the Cranes are respected and treated with affection. There is no danger of any direct harm being caused to these birds in Bhutan at present.

There are other problems facing the Cranes. Of late, barbed wire fences with iron pickets are replacing the traditional Pinewood stakes and scantlings. The traditional fences were clearly visible from a distance but the barbed wire fences are not. This has resulted in wing damage to some Cranes, in Phobjikha and Bumdiling, as they take off and come down to land.

With the improved road communications and the publicity given to the Blacknecked Cranes and their roosting areas, the number of tourists visiting Phobjikha and Bumdiling is increasing. Many of them disturb the Cranes, intentionally or otherwise, as they try to get a closer look or to take better photographs.

This full winter study has given us a better understanding of the Blacknecked Cranes wintering in Bhutan. Some new staging and roosting areas have been discovered. It is likely that there still are other areas in Bhutan which the Cranes use. There are plenty of facts that we do not know about these Cranes and further studies are needed to provide more extensive data to give a complete picture. For example, we do not know the migration routes of the flocks seen in Western and Central Bhutan and it is not known where the Cranes wintering in Bhutan spend the summer months or where they breed.

The Blacknecked Crane is an old visitor to Bhutan and has found a place in the local folklore and the sentiments of the people. This study has indicated that their future in Bhutan is being threatened. While the birds themselves are not being disturbed because of the religion and tradition, there are visible signs of encroachment and destruction of their habitat, at times unintentional. Cranes have already disappeared from some areas like the Jakhar valley in Central Bhutan and their numbers are decreasing fast in the



nearby valleys. Immediate and coordinated action by the Royal Bhutan Government and Non-Governmental organisations is needed if we are to ensure that future generations will be able to see these Cranes in their natural habitat. As a follow up of this study, a number of suggested short and long term measures that need to be taken to protect the species have been forwarded to the Royal Government of Bhutan.

This tough and long study during winter months was made possible by the unstinted support and encouragement I got from the Oriental Bird Club (UK), Department of Forestry (Bhutan), Royal Bhutan Army,

Indian Border Roads Organisation, the ever smiling and friendly women, men and children of Bhutan, Gita my Wife, George and Susan our children and Mary Philip.

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## DNA TESTS CHART RED KITE'S NEAR EXTINCTION

Genetic fingerprinting has shown how desperately close the red kite came to extinction in Britain at the end of the last century.

Widespread persecution reduced a bird that was once common to no more than half a dozen survivors living in the Cambrian Mountains of Central Wales. A single female in this small group provided the offspring which now constitute almost the entire population, amounting to several hundred birds.

The near-extinction of the red kite has been traced by David Parkin and Celia May, of the genetics department at Queen's Medical Centre in Nottingham, using tiny blood samples taken from nestlings by a team of volunteers organised by the Countryside Council for Wales.

DNA fingerprints from the blood samples show that of 171 females tested, 83 per cent are descendants of a single female. The other 17 per cent are limited to a small area and

carry a DNA pattern that is typical of red kites in Germany. The conclusion is that about 20 years ago, a German red kite found its way to Wales and created a second population.

Such inbreeding could be dangerous if environmental conditions were to change or the birds were hit by an epidemic. However, Dr Parkin says there is not much evidence that inbreeding has damaged the red kite in Wales. "They do have a smaller clutch size and lower growth rates than kites elsewhere in Europe," he says, "but that could be because conditions in Wales are difficult for them."

Dr Parkin says the red kite population is growing most rapidly in the region where the German wanderer apparently settled. Cross-breeding with the original red kites may even strengthen the population that survived so narrowly on its own.

*The Times, Saturday, February 13, 1993*

## SAVIOUR OF RED KITES PASSES AWAY

*Flt. Lt. S. RANGASWAMY (Retd.), Rishi Valley Bird Preserve, Rishi Valley 517 352, Chittoor Dist. AP*

I believe NLBW will be featuring the Red Kite (*Milvus milvus*) in its forthcoming issue. I am of the view that no mention of this bird, will be complete without reference to the heroic service rendered by the grand old lady Irene Vaughan who passed away in February last at the ripe old age of 103, for saving the Red Kites which Wales alone can claim as its own, from extinction.

She came to Wales from Suffolk long ago and lived most of her life in Carmarthenshire and then returned to Suffolk to live out her last days. Throughout her long years in Wales she and her husband took many effective measures for saving the Red Kite which then was considered ultra rare. Working tirelessly and with determination for saving this species, the couple instituted the Kite Committee and it is

now a widely acknowledged fact that if there are vastly more Kites in Britain today than at the beginning of the Century, it is due to the pioneering work of this Committee. A small and frail figure riding a large white horse, scrambling up mountain cliffs and disappearing up the tracks towards the hills along the river Tywi - that, people knew was Irene Vaughan, ever on the search for her beloved kites. And this she continued even in her eighties. Little wonder then that she has become part of local legend.

She lived a deliberately frugal life. Besides her abiding interest in birds, specially the Red Kites, she was an all-round naturalist. She knew plants, trees, insects, reptiles and mammals as well. She and her husband were the first to record the yellow-necked mouse, local to their district.

An assiduous gardener and bee-keeper as well, many had seen her – a woman of such slight build, carry boxes of loaded honey without much effort.

The abundance of this kite in Centuries past prompted Shakespeare to refer to London as a 'City of Crows and Kites'. For a long time, it was a capital crime to kill Kites in London as they were said to keep the streets clean of filth. But in the countryside, the bird soon had a price on its head as it commonly preyed on free-ranging fowls. It soon fell victim to ruthless persecution in the name of defence of game. Skin collectors and egg-thieves hastened its disappearance by 1900 or so. In 1905, only 9 to 12 kites were left in Britain.

Thanks to the saviours of birds and protectors of Nature like Irene Vaughan, Red Kites are seen in increasing numbers in Wales and in England too as occasional vagrants. Bird lovers all the world over pay homage to the memory of this frail but firm and resolute lady whose ruling passion throughout her long life was to save the Red Kite from extinction. May we, of the 'Newsletter' fraternity join them in sharing their sentiments.

*Source: An 'Obituary' note by William Condry in Guardian Weekly dated Feb. 14, 1993.*

## TO CAGE THE SKY

PREETI SAWHNEY, Centre for Environment Education - Network for Information Sharing, Taltej Tekra, Ahmedabad 380 054

To airport officials the world over, the sight of a flamingo consignment dead-on-arrival—individual birds wrapped in burlap bags and tightly packed into inadequately-sized crates—is a grim reminder of what they are up against. Crimson Finches and Keas from Australia, Red-breasted Geese that breed in Siberia, various species of Macaw from South America, Nene Geese from Hawaii, Cuban Whistling Ducks, even the little-studied Coscoroba Swans from Argentina and Chile—all arrive at their destination in a state of shock.

There is precious little to be done in the face of an insatiable demand that fuels a death-dealing supply from Africa, Asia and Latin America and also from other countries: Australia, the islands of the Caribbean and Trinidad.

Welcoming markets are active in Japan, the United States of America, Great Britain, Germany, Belgium, France and the Netherlands (the major European destination for live parrots), where public conscience is soothed by claims that the exotic birds, available virtually on request, are all captive-bred individuals! Few buyers stop to ponder the issue.

### Harrowing conditions

To catch a wild bird is merely a matter of technique but to catch it alive is a gamble. Be it the nets that are spread to arrest a flight of fleet feathers, or the practice of wing-shooting that lives up to its claim of non-injury and non-damage only in the hands of an expert; or liming devices that trap unsuspecting birds on the sticky surface, or even the simple strategy of felling nesting trees in the hope of capturing at least one young bird alive — no method escapes a high mortality. Other procedures such as the funnelled baskets of the Philippines, are also not proof

against distress. No avian species can hope to escape a motivated trapper.

Once captured, these birds are subjected to further misery and indignity, partly through the sheer ignorance of their handlers. At El Salvador, fledglings are routinely fed tortillas, while elsewhere baby mynahs perish from hunger after two days. A conscientious dealer may struggle to keep the mortality rate as low as possible, but a majority are content to clear out the dead birds every morning.

The well-known writer Arthur Ricciuti was shocked at what he saw in Bangkok: row upon row of the most delicate birds, beautiful even in their agony in cramped, squalid surroundings; and a Helmeted Hornbill dying on the floor of a cage—a bird so rare that it can be exported only by ministerial decree. The dealer shrugged at the sight. In Senegal, seed-eaters such as the Golden Sparrow, and Pin-tailed Wydah, are fed recycled grain (i.e. grain extricated from debris and excrement, and cleaned).

Travel itself is a harrowing experience for most bird species, particularly the 75 families that include swifts, lyrebirds, storm petrels, swallows, hummingbirds. They are, apart from being cruelly packed—some even in suitcases and tyre tubes—placed in holdings that are too hot and particularly suffocating in a rough flight. The noise of unloading has been noted as a panic-inducing factor, many individuals clawing at themselves and others in a bid to escape. In the past, mortality was as high as 80–90 per cent for most species, and approximately 60 per cent of the survivors succumbed within days or months of arrival.

The RSPCA maintains an 'animal port' at London's Heathrow Airport, and records export numbers and the senseless cruelty of inhuman practices. Mynahs were imported beyond all stipulated quotas due to their popularity as talking birds, thereby reducing numbers to

the point where the countries of origin including India banned their export. The boxes that do arrive are nightmarish, to say the least: Blacknecked Swans from Argentina, packed without food or water; Laggar Falcons from Pakistan, with their eyes — more — stitched closed with string; terrified baby Macaws in pitifully overcrowded cages; and from India, a Peregrine Falcon, thoughtfully provided with a live rock dove for food.

### Masterminding the trade

That most birds are captured and traded in violation of all laws is undisputed. Equally well-known is the *modus operandi*: the birds are rerouted and exported from countries that do not protect the species. Some enterprising American individuals smuggled in ostrich and parakeet eggs, with the aim of incubating these and selling the coveted produce at fantastic prices! The operation was cracked by the US Fish and Wildlife Service and the US Customs Service.

Some birds—dead or alive—don't quite make it to journey's end. Importers are often caught red-handed at the airport itself: thus were Eclectus Parrots and Writhed Hornbills recovered from a two-tier box at an airport in Belgium. Others are not so lucky: authorities and conservationists, who were soothed when Malta became a party to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in 1989, had reckoned without the ingenuity of the dealer who shipped four Palm Cockatoos to Oman via the UK, accompanied by documents naming Singapore as the country of origin. Alert officials at UK noted that the species was native to Papua New Guinea, Indonesia and Australia but never to Singapore, and that all three countries are bound by CITES. Therefore, trade was definitely illegal. Malta was, and remains, notorious for its bird trade and for the open season on birds when no avian creature is safe in Maltese skies and all present indulge in the sport.

Now, insurance up to 9–10 per cent of the shipment value can be purchased; and sixty airlines have decided to decline carriage of wild-caught birds. Some, however, are adamant in their refusal to do likewise. Moreover, the International Air Transport Association (IATA), based in Switzerland, has laid down, strict rules regulating the transfer of wildlife. Enforcement remains weak, as it does for various CITES stipulations.

### Shameful record

India too has an appalling record, second only to Senegal which sells its avian heritage cheaper. The Gangetic plains and the foothills of the Himalaya are the primary trapping grounds with the states of Assam, Maharashtra, Madhya Pradesh and Orissa a close second. The market for Indian birds is vast. Sixty-two countries receive species

often protected by both CITES and the Indian Wildlife (Protection) Act; the latter now bans trade in live birds.

The Black Stork, Pallas' Fishing Eagle, Imperial Eagle, White-winged Wood Duck (for breeding purposes), and the Narcondam Hornbill have all been exported, as also species that only winter in the Indian sub-continent. Many a bird has been dyed to pass muster as a permitted species, customs officials being none the wiser.

India, like Thailand, has a thriving domestic trade as well. Parakeets, partridges, songbirds are extremely popular, as is the pheasant, whether as pets, gourmet fare, or for sport. Some, like the peacocks and doves, wind up as taxidermy projects.

Trade notwithstanding, a major worry is the possibility that many unknown species are being driven to extinction in remote parts of the world. This worst of fears was realized in Dar-es-Salaam, Tanzania, where four birds—two dead and two dying—of an unknown and unrecorded species were chanced upon in a bird dealer's premises. This is different from the case of species that I choose to call 'invisible' insofar as we all know that they are out there somewhere, but no records exist of their numbers in the wild or the trade in live (or otherwise) specimens—the Taita Falcon of southern Ethiopia and the Pink-throated Imperial Pigeon of the Philippines, to name a couple.

### Ray of hope

It is the Philippines that seems to have achieved the turning point that captive-breeding proponents and conservationists dream of: the Philippine Eagle, one of the world's rarest birds, survives in a total population of 35 individuals, of which 13 are tended at the facility of the Philippine Eagle Conservation Programme Foundation. Employees gladly forfeited their salaries so that the eagles could be fed: this was in 1989 when funds hit an all-time low.

In January last year, their abiding love was rewarded by the successful hatching and survival of the first captive-bred chick they have chosen to name Pag-asa, i.e. Hope. Contrary to previous plans, the newest member will not be released into the wild because of rampant destruction of its preferred habitat which would endanger its survival, and also because of the need for a healthy gene-pool for future generations.

Perhaps the day will come when those who yearn for our feathered friends will realize that travelling to remote jungles and mountains is the best way to glimpse, study, and cherish the various species that need to be skyborne if they are to flourish. For those of us who cannot, or will not, go the distance, may be reading about them or watching films will be a sufficiently rewarding bond. (CEE-NFS).

## WATERBIRD SPECIES RECORDED AT DHARWAD DISTRICT IRRIGATION TANKS

DR. J.C. UTTANGI, 36, Mission Compound, Dharwad 580 001, India

A survey of the irrigation tanks as migration stopover-sites for waterfowl in Dharwad District was carried out under the sponsorship of the British Oriental Bird Club (OBC) Forktail-Leica Small Survey Grant during February and March 1992. No previous Ornithological study had been initiated in Dharwad District. A total of 54 tanks throughout the District was studied. Detailed limnological data acquired on water quality, aquatic vegetation, phyto and zoo plankton has been published separately while, in the present article a checklist of waterfowl recorded from 54 tanks is detailed indicating their distribution in the tanks.

Conservation measures have been recommended to the authorities for implementation. The study revealed that in many areas along the western flank of Dharwad District, irrigation tanks were of national importance as stop-over-sites for important migratory water-birds such as Barheaded goose, Demoiselle Crane, Widgeon, Garganey, Common teal, Pintail, Shoveller as well as Sandpipers, Curlews and Plovers. In addition these tanks serve as excellent feeding and breeding ground for resident waterfowl like Grebes, Coots, Jacana, Moorhen, Heron, Egret, Stork, Ibis, Spoonbill and a host of other species.

The species recorded include 2500 Demoiselle Cranes, 1000 Barheaded geese, and the first ever flock of 500 Greater Flamingos and an inland record of 35 members of the Pacific Golden Plover.

The main threats to the tanks are removal of aquatic vegetation, reed cutting, cattle grazing and bathing, washing clothes, fishing activities, illegal bird netting and trapping, use of pesticides and fertilisers, and above all encroachment of land around the tanks for cultivation.

The irrigation tanks deserve protection as habitats for waterfowl. There should be effective management both for the village community as well as aquatic wildlife. The tank bunds need strengthening, and the bed needs desilting. At least 2 feet of water in summer and winter should be allowed to remain. The run-off from nearby paddy-fields treated with insecticides must be prevented from entering into the tanks. Provision for maintaining the ecological quality of the tanks should be made by the Governments. The State government should consider conducting similar surveys in different district areas of Karnataka.

### CHECKLIST OF WATERBIRDS OF DHARWAD DISTRICT

Bird species	Number of tanks where the birds were recorded
1 Lesser Whistling Duck, <i>Dendrocygna javanica</i>	5
2 Barheaded Goose, <i>Anser indicus</i>	6
3 Ruddy Shelduck, <i>Tadorna ferruginea</i>	7
4 Comb Duck, <i>Sarkidiornis melanotos</i>	1
5 Cotton Pygmy-Goose, <i>Nettion coromandelianus</i>	6
6 Gadwall, <i>Anas strepera</i>	1
7 Common Teal, <i>Anas crecca</i>	3
8 Spotbilled Duck, <i>Anas poecilorhyncha</i>	5
9 Northern Pintail, <i>Anas acuta</i>	17
10 Garganey, <i>Anas querquedula</i>	17
11 Northern Shoveller, <i>Anas clypeata</i>	15
12 Common Kingfisher, <i>Alcedo atthis</i>	13
13 White-throated Kingfisher, <i>Halcyon smyrnensis</i>	12
14 Pied Kingfisher, <i>Ceryle rudis</i>	9
15 Demoiselle Crane, <i>Grus virgo</i>	5
16 Purple-swamphen, <i>Porphyrio porphyrio</i>	4
17 Common Coot, <i>Fulica atra</i>	17
18 Sandgrouse spp, <i>Pterocles</i> spp.	3
19 Blacktailed Godwit, <i>Limosa limosa</i>	8
20 Bartailed Godwit, <i>Limosa lapponica</i>	2
21 Eurasian Curlew, <i>Numenius arquata</i>	5
22 Common Redshank, <i>Tringa totanus</i>	1
23 Common Greenshank, <i>Tringa nebularia</i>	3
24 Wood Sandpiper, <i>Tringa glareola</i>	6
25 Common Sandpiper, <i>Tringa hypoleucos</i>	24
26 Little Stint, <i>Calidris minuta</i>	quite common
27 Greater Painted Snipe, <i>Rostratula benghalensis</i>	2
28 Bronze-winged Jacana, <i>Metopidius indicus</i>	4
29 Pheasant-tailed Jacana, <i>Hydrophasianus chirurgus</i>	3
30 Black-winged Stilt, <i>Himantopus himantopus</i>	23
31 Pacific Golden Plover, <i>Pluvialis fulva</i>	1
32 Little Ringed Plover, <i>Charadrius dubius</i>	10
33 Red-wattled Lapwing, <i>Venellus indicus</i>	11
34 Small Pratincole, <i>Glareola lactea</i>	1
35 River Tern, <i>Sterna aurantia</i>	6
36 Black-bellied Tern, <i>Sterna acuticauda</i>	2
37 Little Grebe, <i>Tachybaptus ruficollis</i>	17
38 Oriental Dater, <i>Anhinga melanogaster</i>	1
39 Little Cormorant, <i>Phalacrocorax niger</i>	8
40 Little Egret, <i>Egretta garzetta</i>	25
41 Grey Heron, <i>Ardea cinerea</i>	2
42 Purple Heron, <i>Ardea purpurea</i>	2
43 Intermediate Egret, <i>Mesophoyx intermedia</i>	1
44 Cattle Egret, <i>Bubulcus ibis</i>	28
45 Indian Pond Heron, <i>Ardeola grayii</i>	22
46 Great Bittern, <i>Botaurus stellaris</i>	4
47 Greater Flamingo, <i>Phoenicopterus ruber</i>	2
48 Glossy Ibis, <i>Plegadis falcinellus</i>	3

49 Black-headed Ibis, <i>Threskiornis melanocephalus</i>	9	55 White Stork, <i>Ciconia ciconia</i>	2
50 Black Ibis, <i>Pseudibis papillosa</i> (Red-naped)	7	56 Red-rumped Swallow, <i>Hirundo daurica</i>	11
51 Eurasian Spoonbill, <i>Platalea leucorodia</i>	seen occasionally	57 White Wagtail, <i>Motacilla alba</i>	10
52 Painted Stork, <i>Mycteria leucocephala</i>	4	58 Yellow-headed Wagtail, <i>Motacilla citreola</i>	1
53 Asian Openbill, <i>Anastomus oscitans</i>	3	59 Marsh Harrier, <i>Circus aeruginosus</i>	4
54 Woolly-necked Stork, <i>Ciconia episcopus</i>	12	60 Brown-headed Gull, <i>Larus brunnicephalus</i>	seen occasionally

## FEATURE

# HUNTING WITH THE SHEIKHS

Mary Anne Weaver

Abrar Mirza, the conservator of wildlife for the Province of Sind, in Pakistan, is by nature a rather doleful man, and he always appears to be in a state of crisis. When I first met him, late last November, he was especially anxious, because he had been waiting for weeks — waiting for the full moon, and waiting for the rains, and waiting for the houbara bustard, an endangered species of a fast-flying and cursorial desert bird that migrates to Pakistan each autumn from the former Soviet Union and from the Central Asian steppes. A good many Arab sheikhs and princes were also waiting — discreetly — in opulent Karachi palaces.

Mirza dreads November, he has often said, because his entire life is put on hold. The responsibilities of his position include the delicate job of monitoring the Arab royal hunts. He is a bit puzzled by them, and can't really explain why, with the arrival of the houbara, scores of Middle Eastern potentates — Presidents, ambassadors, ministers, generals, governors — descend upon Pakistan in fleets of private planes. They come armed with computers and radar, hundreds of servants and other staff, customized weapons, and priceless falcons, which are used to hunt the bird. Mirza considers it all a little excessive. But then the houbara bustard has been a fascination to the great sheikhs of the desert for hundreds of years. Poets have written about it. Old men of the desert have sung of it in tiny tea stalls. Even today, Arab diplomats, in well-appointed embassies abroad, discuss the advent of the season, and discuss it endlessly.

"The bird is a month late!" Mirza announced one morning when I stopped by his office, in Karachi, and found him at his desk, which was covered with mounds of papers and with half-finished cups of tea. He would make a fine Inspector Clouseau: middle-aged, wiry, although with a bit of a paunch. "Only a handful have arrived. And I am being held responsible, as though it's all my fault. Look at these telegrams!" He threw a mass of papers into the air. They were urgent messages from the Pakistan government — the majority of them from the Ministry of Foreign Affairs, which was most stressed.

It is Foreign Ministry that awards the visiting Arab dignitaries special permits to hunt. Pakistanis themselves have been prohibited from killing the houbara since 1972. Yet each season, which lasts from November until March, their countryside is carved up, like a giant salami, into ever smaller parts. Some sheikhs — among them Zayed al-Nahayan, the President of the United Arab Emirates and the chief shareholder of the Bank of Credit & Commerce International, or B.C.C.I. — receive permits that cover thousands of square miles. No other hunters may cross the invisible line that separates Sheikh Zayed's personal hunting grounds from those of, for example, the Saudi Princes Naif and Sultan, or the Dubai leader, Sheikh Maktoum. At least, that is so in principle.

"Look at this!" Mirza nearly shouted, flailing a piece of paper before my eyes. Across the top was stamped "CONFIDENTIAL MOST IMMEDIATE"; it was a message from Colonel S.K. Tressler, the chief of protocol. Sheikh Maktoum would soon be arriving from Dubai, and a party of royal Bahrainis was hunting on his turf — not even Dubais but Bahrainis. Mirza was instructed to sort the muddle out. Then, there was a party of hunters from the royal family of Qatar "sneaking around," Mirza said, on Saudi Arabia's turf. And a member of the Dubai royal family was reported to have bagged two hundred birds in a protected national park, in the company of the honorary game warden, who was a member of the Pakistani parliament.

"None of this would have happened if it hadn't been for Abedi," Mirza said. He meant Aga Hassan Abedi, the Pakistani who had founded B.C.C.I. "He was the one who first arranged hunting outings in Pakistan for the sheikhs. He set up everything for them — from doing their shopping to providing bribes and geisha girls. The more he provided, the more their deposits filled his bank."

I had my first inkling of the royal houbara hunts during a visit to Pakistan a few years ago when, late one evening, I entered the elevator of my Karachi hotel and, to my astonishment, found myself in the company of two Arabs



*The houbara bustard was declared an endangered species in 1975, but in the deserts of Pakistan each year Arab royals kill at least six thousand of the birds, whose meat has alleged invigorating powers.*

with falcons on their arms. After a bit of research, I sought out a friend of a friend from the Ministry of Foreign Affairs, a man I will call Ahmed, and he agreed to let me accompany him to the Karachi airport on a night when he was to receive an advance party of one of the sheikhs. He made me promise not to reveal that I was a journalist.

The sheikhs are obsessive about their privacy. Some have built personal airfields to protect themselves from public view. Some have constructed huge desert palaces, surrounded by fortress-like walls. Some live in elaborate tent cities, guarded by legions of Bedouin troops. They have their own communications equipment, road networks, security forces, and police. Totally closed off to outsiders, their hunting fiefdoms are, in effect, Arab principalities. They sprinkle the vast deserts of Balochistan, Punjab and Sind, covering hundreds of miles. The sheikhs move in and out of them like phantoms, giving rise to any number of outlandish stories, many of which turn out to be true. There is, for example, the story that the late King Khalid of Saudi Arabia transported dancing camels in a C-130 to join him on his hunt. There is the story that Prince Sultan, who is the Saudi Defense Minister, slaughtered seventy sheep and lambs every day to feed his royal entourage.

It was well past midnight when Ahmed and I reached the airport. (The sheikhs of the desert have always preferred to travel in the middle of the night.) A Pakistani Army major met us in the V.I.P. lounge, where a small group of Arab diplomats, in tailored silk suits, sat in a corner, sipping cups of sugary tea. They shook hands with Ahmed and nodded politely to me. Then black stretch

limousines whisked us to a remote section of the airfield, which had been cordoned off by Pakistani troops to assure the sheikh's entourage of total privacy.

As we waited on the tarmac, the arriving planes lit up the night sky. Flying in formation — observing protocol, apparently — an executive Learjet was followed by two customized Boeings and a fleet of reconfigured C-130s, which flew two abreast. They had all been designated "special V.V.I.P. flights" by the Pakistani government. There would be no customs clearance, no passport control — the royal entourage enjoyed extraterritorial status in Pakistan. The lead planes touched down, and a red carpet was hastily unrolled. We all hurried to it, and stood in a slightly dishevelled line.

"This is the sixth flight this week," one of the Arab diplomats told me, exhaustion in his voice.

"Do you accompany them on the hunts?" I asked.

"Good heavens, no," he said, smoothing one of his silk lapels, "I'm basically a fisherman myself."

Two military officers in dress uniform got off the executive jet and walked briskly toward us, carrying attache case and swagger sticks. They were followed by other members of the sheikh's personal staff — a purser, a physician, a royal chamberlain — all in kaffiyehs and flowing camel-colored robes. Security men in khaki uniforms hurried from one of the Boeings and fanned out across the field. The doors of the C-130s opened, and immense vehicles began rolling down the ramps.

From a distance, the vehicles were merely dots of color — canary yellow, bright red, black and white. Then they lumbered by us: two-thousand-gallon water tankers and eight-thousand-litre fuel tankers — dozens and dozens of them — in militarily precise lines. Now planes were landing all around us, ramps were quickly dropped, and jeeps, Range Rovers, and Land Cruisers raced down. They had all been customized for the royal houbara hunts, to make areas once inaccessible easily accessible now. They had open backs and convertible tops, and were equipped with special gauges, special shock absorbers, and special tires. Their drivers were dressed in Bedouin robes, and wore exceedingly dark glasses, even though the night itself was exceedingly dark.

There was a din, deafening at times, as camp managers shouted instructions in Arabic, as gears ground and brakes slammed, as more and more heavy equipment was disgorged. Security men dashed back and forth. Cranes labored across the runway and carefully unloaded satellite dishes and communications equipment. From time to time, I glimpsed generators, air-conditioners, mobile bars, VCRs. "They're totally self-sufficient in the desert," the diplomat



who preferred fishing said. "Some of them even drill their own water holes. Providing water for an entourage of three hundred people is a problem." He shook his head.

During all the commotion on the runway, I had become separated from Ahmed, and now I went in search of him. I found him among a group of agitated officials, standing in a tight circle beneath a wing of one of the planes. "The mobile palaces are new," he told me, "and they don't know how to get it down." Looking up, I saw an unwieldy dark-blue structure, about fifty feet long and perhaps thirty feet wide, stuck at the top of the ramp. It was a customized Mercedes, and prominent on its hood was a now slightly askew gold-plated royal crest. "When they first began coming," Ahmed said, "even King Khalid and Sheikh Zayed slept in a tent."

In 1929, H.R.P. Dickson, a British colonial officer who had served in Kuwait, described the houbara's yearly arrival on the Arabian Peninsula as "a season for rejoicing." He wrote, "The rains are close at hand and .... the hubara have arrived. They are verily, like the manna of old, Allah's reward to those who have endured the summer heat."

By the nineteen-sixties, the houbara had been hunted almost to extinction in the Middle East. "There was near hysteria when the bird disappeared," an Arab ambassador told me. The kings, sheikhs, and princes hurriedly dispatched scouting parties abroad. They recruited British and French scientists to attempt to breed the houbara in captivity. They called upon Japanese technicians to develop special tracking devices and customized vehicles for the hunt. It was the beginning of what would become a multimillion-dollar industry. But none of their endeavors solved their most pressing problem: Where could they hunt the houbara bustard *now*?

Pakistan was believed to have one of the largest migratory populations of houbara in the world, but no one was quite certain, then or later, how large it actually was. For although the houbara was declared an endangered species in 1975, largely as a result of the high-tech hunting of the sheikhs, no international conservation group had ever done a comprehensive study on the bird's distribution worldwide. After a good deal of debate, experts at an international symposium in Peshawar, Pakistan, in 1983 finally agreed that Pakistan's houbara population probably numbered somewhere between twenty and twenty-five thousand birds. In retrospect, the figure seems extremely low. The houbara reproduces at a rate that increases its numbers by only about five per cent a year, and the conservation officials I spoke with on this trip told me that the Arab hunting parties were bagging at least six thousand birds a year, and even that figure was considered a very conservative government estimate. (Sheikh Zayed alone brings a hundred and fifty falcons with him.)

Although General Muhammad Zia ul-Ha, Pakistan's President in 1983, supported the symposium, he ignored its unanimous appeal that houbara hunting be banned in Pakistan altogether for at least five years. For while the number of Arab royal falconers was small — perhaps two or three dozen men — they were all immensely powerful, and immensely rich, and they put millions of dollars into their hunts. They also provided Pakistan — whose per-capita G.N.P. was only three hundred and fifty dollars a year — with some three and a half billion dollars annually in military and economic aid and in remittances of two million Pakistanis working in the Gulf. So, despite appeals from Prince Philip, who is the president of the World Wildlife Fund, and from other conservation groups, the sheikhs and princes continue to hunt.

One evening in early December, I was invited to a dinner for one of the visiting sheikhs. It was held at the elegant Karachi home of the Talpurs, one of the great feudal families of Sind. They were the ruling family of the district of Mirpur Khas and controlled vast tracts of land, where members of the royal families of Dubai and Qatar had begun to hunt, including Sheikh Muhammad, a Dubai prince for whom the dinner was being held. None of the guests seemed certain of precisely who he was, although they all assured me that he was definitely a very influential sheikh.

A billowing *chamiana* tent of red, white, blue and yellow had been set up in the middle of the Talpurs' lawn. It was filled with imitation-Louix XV wing chairs and upholstered settees arranged in a large rectangle. Bearers in starched white jackets served whiskey and gin in tall glasses that had been wrapped delicately in paper napkins. (Alcohol is forbidden in the Islamic Republic of Pakistan.) As everyone waited for the Sheikh to arrive, I greeted a number of Pakistani ministers and former ministers. It was an impressive gathering of Karachi's feudal, political, and financial elite, for, if the Arab sheikhs and princes were attaching greater urgency to the houbara hunt this year, so, in a sense, was the government of Pakistan. It had vacillated during the Gulf War, agonizing over what it could do that would be acceptable at home and yet would not displease its Arab patrons or the United States. In the end, ten thousand troops were sent to the Gulf, with orders not to fight. Officially, they were sent to Saudi Arabia to guard its religious shrines. But no sooner had the troops been dispatched than Pakistan's zealous mullahs — whom Saudi Arabia had been funding for years — announced, with some flourish, that they had recruited thirty thousand volunteers to fight on the side of Iraq. Nobody knew for certain where Pakistan stood, and no government was more irritated than the government of Saudi Arabia. The houbara bustard was now a pawn on the geopolitical chessboard.

"We must find a proper seat for you," my host, Nawab Abdul Ghani Talpur, said to me. "You must not be so close to the Sheikh as to be conspicuous, but you must not be so far away that he can't see you and invite you to join him on his settee." It was finally decided that I should sit between a feudal landlord and a member of parliament. The landlord was a short, plump man with betel-stained teeth who was wearing a reddish-orange toupee. He said that the sheikhs had been hunting on his private lands for nearly a decade. We all hurried to sit in our assigned places as the Sheikh's arrival was heralded by screeching sirens and by guards scurrying to take up positions along the perimeter of the tent, their Kalashnikovs at the ready.

"His Majesty," the Nawab announced, and we all jumped to our feet.

"He's not 'His Majesty,'" the landlord whispered dismissively. "He's merely the brother-in-law and the cousin of the ruler of Dubai, and he's not a very good hunter, either. When he didn't find any houbara in my desert tracts, he moved his entire camp — servants, vehicles, falcons — into Kirthar National Park. He killed more than two hundred houbara in ten days, and he killed gazelles and ibex, too."

"Why was that permitted?" I asked.

"No one has ever written, either Jesus or the Prophet Muhammad, that Pakistan must be poor."

That was the way many of my conversations in Pakistan went. I met game wardens wearing jewelled watches that were gifts from the sheikhs. Politicians, chief ministers, and former chief ministers received lavish residences or customized cars. Some of them shopped frequently in London — flying back and forth in one or another of the sheikhs' private planes.

Sheikh Muhammad bin-Khalifa al-Maktoum swept into the tent. His face showed no emotion as he went from guest to guest. A slight man with a Vandyke beard, he was dressed in a black robe trimmed with gold, and a white kaffiyeh. For some reason, he carried a shepherd's wooden crook in his hand.

After I introduced myself, he asked me if I live in Pakistan.

"No, Your Excellency, I've come for the houbara hunt."

"We're not hunting," he said, rather tartly. "We're only training falcons." And he moved on.

I asked the landlord how much a typical royal hunt cost.

"Well, when you take everything into account — The hunting vehicles, minus their electronic fittings, cost at least twenty thousand dollars each; then add the costs of their falcons and private planes; and, of course, there are

the out-of-pocket expenses." He laughed a guttural laugh. "The controller of Sheikh Muhammad's household told me that he paid about two hundred thousand dollars out of pocket for this particular trip. He's spent a total of about nine million dollars thus far, and he bagged about six hundred birds. That works out to about fifteen thousand dollars a bird."

He then quickly added that that figure was low. The sheikhs normally spent between ten and twenty million dollars for a typical royal hunt.

I glanced at Sheikh Muhammad, now sitting on a gilded sofa at the head of the tent. He sat rigid, seemingly bored, with the shepherd's crook held upright in his hand. The etiquette of the evening was that one was not permitted to leave one's seat unless summoned by the Sheikh. We sat for over two hours, and only three of the sixty-odd guests were invited to the royal settee.

"Have you ever been with a sheikh on a bustard hunt?" the landlord asked me as the evening dragged on. "It's the craziest thing I've ever seen, but it's like a religion to them. They're out in the desert from dawn to dusk, covered with dirt and dust. The driver is submerged in one of those jeeps, as if he were in an A.P.C. — armored personnel carrier. "The sheikh sits next to him in an elevated seat that swivels at a hundred and eighty degrees, I guess it's a good hobby, if you're into that kind of thing."

"What kind of thing?" I asked him.

He looked somewhat startled, then said, "My lady, these Arabs eat the houbara for sexual purpose — it's full of vitamins."

A Falcon trainer told me that if I really wanted to see a hunt I should go to Balochistan, to Chagai district. It was a Saudi hunting area — a place called Yak Much. Bordering Afghanistan and Iran, Chagai is on one of two migratory paths by which the houbara enters the country, and is thus one of the most preferred hunting areas in Pakistan.

A sixteen-hour car ride, through desert and mountains and tribal lands, brought me to Quetta, the provincial capital of Balochistan — the only province in the country where the houbara is known to breed. And, in increasing numbers each year, eggs, chicks, and birds are being smuggled out, primarily to Taif, Saudi Arabia, where French scientists — in a multimillion-dollar effort of limited success — are currently attempting to breed the houbara in captivity. In the fall of 1991, Mirza had confiscated five such consignments — some five hundred birds in all — in just six weeks.

Shortly after my arrival in Quetta, I called on the provincial wildlife minister, Jam Ali Akbar. He told me that

he really wasn't much of a wildlife person himself. He wrote pop music, and was the president of Balochistan's Roger Moore Fan Club. I asked him if the provincial government was doing anything to protect the houbara.

"It's impossible — it's a federal-government matter," he said. "And these sheikhs are extremely attached to this little bird. It's not a simple matter." He shook his head. "The wildlife people say this shouldn't be permitted. But then the sheikh's agents come, bringing priceless gifts, like diamond-studded gold Rolex watches. And sometimes, I've heard, they dispense briefcases containing a couple of thousand dollars — and you can keep the briefcase, too. The sheikhs say that these are migratory birds, so we lose nothing. And if we don't permit it they'll simply go somewhere else."

Quite by accident, I met Balochistan's largest falcon dealer, Mir Baz Khetran, one afternoon in my hotel. His presence there shouldn't have surprised me. Royal hunters had begun arriving, en route to their hunting grounds, and falcons had become a familiar sight throughout the hotel. Mir Baz and his brother, Lal Muhammad, dealt in falcons together, which was largely illegal in Pakistan, and Lal Muhammad also served as one of the chief minister's key advisers — on wildlife.

It was Lal Muhammad who trapped the falcons, Mir Baz explained when we chatted in my room at the hotel; their servants trained them, and then he himself sold them to the sheikhs. His falcon empire had insured him a seat in Parliament, and he had been a Cabinet minister in Benazir Bhutto's short-lived government. Mr Baz was in his early forties, and had a round, puffy face and dark hair. He wore sparkling rings and a good deal of cologne; gold chains covered his chest, which was half exposed.

"Such hectic times," he said, slumping in his chair. "The falcon season lasts for only four months." (The most expensive falcons migrate with the houbara from Siberia.) "But fortunes, Madam! — fortunes can be made. There is a huge competition between these Arab sheikhs. And if a sheikh sees a falcon that he judges to be *hurr*," or noble and free, "and if that bird is nearly white or totally black — both are extremely rare — that sheikh, Madam, nearly has a heart attack. He simply must buy it, and he will pay *such* money for beauty."

"How much?" I asked.

"Nothing less than the equivalent of eight thousand dollars. The record price for Balochistan this year was twenty-five lakhs" — a hundred and twenty thousand dollars — "for a shahin, which was caught in the northern border area, near Zhob. By the time it reaches the Middle East, it will bring much more."

Mir Baz then said, "You know, Madam, these Arabs consider the houbara an aphrodisiac."

"So I've heard," I replied.

"But some of them, Madam, eat one houbara a day — sometimes two, if it's a special occasion. That means they may eat as many as *five hundred* birds a year!"

Several nights later, I was invited to dinner by one of Balochistan's tribal chiefs — Nawab Akbar Khan Bugti, the leader of the second largest of the province's seventeen major tribes. An aristocratic Anglophile who had spent the last forty-five years in and out of government, in and out of favor, and in and out of jail, Bugti was now the leader of the opposition in the Provincial Assembly and one of Balochistan's most powerful men.

When I arrived at his home, I found his receiving room crowded with other tribal chiefs. Sardars, mirs, and maliks sat cross-legged on a Bukhara rug and lounged against pillows piled against a wall. The Nawab greeted me warmly; I had known him for some time. He then went from guest to guest, and each reported on the site of one or another of thirty or so royal parties hunting in his tribal lands.

"Where is Yak Much?" I asked the Nawab, after he had spoken to his guests.

"In the middle of God's country," he replied. "It's miles and miles from nowhere — nothing but tons and tons of sand. And it's totally off limits to everyone except the Saudis. Ask *them*." He pointed out two men on the other side of the room, and then introduced me to Ali Ahmed Notezai and Sakhi Dost Jan. They were the kingmakers of Chagai district, of which Yak Much was a part.

Notezai was a member of the Provincial Assembly, and was allegedly involved in the smuggling trade. He reminded me of a penguin with stubble on its face. Sakhi Dost was a rather more distinctive type: a large man, he had a broad, menacing face, and his teeth were betel-stained. He wore a brown waist-coat over his *shalwar kameez* — the Pakistani national dress — and a white turban, cockaded and lofty, that tied from behind, so its folds of soiled cloth streamed down his back. His wealth, which was considerable, was also said to be grounded in the smuggling trade, and he had the reputation of being a bit of a Robin Hood. When I asked him about that, he said there was no point in robbing the poor.

Both men had known the Saudi Defense Minister, Prince Sultan, for years — ever since he began hunting in Chagai district, where he held exclusive sway over nearly twenty thousand square miles. They told me that the Saudi hunters would be led by one of the Prince's sons: Prince Bandar, the

Ambassador in Washington, or Prince Khalid, who had commanded Saudi forces during the Gulf War, or Prince Fahd, the governor of Tabouk Province. But it would definitely be a son. "In this wild mavericking, they don't trust even their brothers," Notezai explained.

"What is so fascinating about the houbara?" I asked.

"The sheikhs tell me it is the ultimate challenge for the falcon," the Nawab replied. "Much of the fascination is in the flight; it can go on for miles. The falcon is the fastest bird on earth, and the houbara is also fast, both on the ground and in the air. It is also a clever, wary bird, with a number of tricks. Part of the lure is in *finding* it. You can spend half a day following its tracks. It's a contest — your wits against its. Then, there's the contest between the two birds. The houbara tries to stay on the ground, where it is difficult, sometimes impossible, for the falcon to strike. The falcon tries to coerce it, cajole it, frighten it into the air. There the falcon reaches for the sun, and then comes down on the houbara — but it must stay above. Otherwise, the houbara, whether as part of its defensive armor or in its reaction to fear, emits a dark-green slime violently from its vent. Its force is so strong that it can spread for three feet, and it can temporarily blind the falcon, or glue its feathers together, making it unable to fly. The sheikhs have told me that, once that happens, many falcons will never hunt the houbara again."

The Nawab called for a servant and gave him instruction in balochi. The servant left the room, and he returned carrying a custom-built leather case. He placed it at my feet.

"Open it," the Nawab said.

I did. Nestled inside, protected by a fur lining, was a 24k. - gold-plated Kalashnikov. It was a gift to the Nawab from the Minister of defense of the United Arab Emirates, who hunted in Balochistan each year. It was the size of the normal Kalashnikov but was perhaps three pounds heavier, because of the gold. It was engraved with the royal coat of arms, and its two magazines were also plated in 24k. gold. The Nawab handed it to me. I had held a Kalashnikov before, but I had never held three pounds of gold.

"In the old days, we would hunt the houbara on foot or camelback," the Nawab said. "We would try to outsmart it, using the camel as a shield. The houbara knows the camel, since the camel grazes in the areas where the houbara feeds. You couldn't go directly for the bird, or it would flee. So you circled it on camel-back, making the circle ever smaller. the houbara would watch, mesmerized, confused. But now customized vehicles have replaced camels, palaces have replaced tents. They use radar, computers, infrared spotlights to find the bird at night. What is the challenge? What is the thrill? The odds have changed immensely for the houbara. The poor bird doesn't stand a chance anymore."

YAK MUCH ("One Date Palm") is a desert village of about a hundred people, one gas station, and a few little food stands and shops. And, on close inspection, I found that it now has five date palms. Its most distinctive feature is a large green board at the village line, which in bold lettering announces "No HUNTING PERMITTED." Since the houbara breeds here, yak Much is, in principle, a protected sanctuary.

A mile or so beyond the sign was the Saudi royal camp. My driver was the first to spot it. There was nothing around us except desolate miles of sand, but then, stretched along the horizon, we saw lines and lines of tents. If we hadn't been looking for them, we could easily have passed by. The camp was deep in the desert, five miles off the road, and as we continued along the highway we could see the tents one moment, and the next moment they would disappear.

We left the highway at an unmarked point—there was no road—and cartered across the desert, lurching around bushes and shrubs. Then the camp came into focus—scores and scores of black, brown, and white pyramidal forms. Against the flat emptiness of the desert, the tents suggested a gathering of giant dinosaurs. The camp sprawled over some ten acres, in two concentric circles, bringing a medieval city to mind. The inner tent city, of forty-four *chamianas*, was surrounded by perhaps sixty smaller tents. They stood like a wall, as if to keep all outsiders out. The perimeter was guarded by Pakistani levies and border militiamen, dressed in blue or gray sweaters and berets. Some were swathed in blankets against the desert chill. The inner city was guarded by security men in the retinue of Prince Fahd, who would lead the Saudi royal hunt.

Vehicles were lined up in neat patterns on the perimeter of the camp; water tankers, oil tankers, petrol tankers, and a fleet of customized hunting jeeps. There were immense yellow cranes, to pull the vehicles out of the sand if the need should arise; a mobile workshop, which was fitted with everything necessary to overhaul a car; and huge refrigerator trucks, to carry the hunting bag out. Silver satellite dishes were anchored in the desert rock. From inside the camp, you could make a phone call to any place in the world. I spotted two royal falcon trainers whom I had met at my Quetta hotel. They carried mobile telephones, and their falcons were perched upright on their arms.

There were now about a hundred falcons inside the camp for the seventy or eighty royal hunters who would accompany Prince Fahd. Only the Prince's favorite falcons would arrive with him. I asked the chief of the Pakistani security detachment how long it had taken to assemble the camp, and he said only four days. The hunting vehicles—there were sixty—and the heavy equipment, tents, generators, and fuel had all been transported from Jidda by

C-130s to the airport in Dalbandin, which was the closest town to Yak Much, thirty-five miles away.

Officials in Dalbandin had told me that the Saudi royal parties—which usually hunted two to three thousand birds during their monthlong stay—had no beneficial impact on the local economy; they'd given residents only two generators (which didn't work), a mosque (which they didn't need), and the airport (which was used almost exclusively by the hunters themselves).

At the camp the following evening, after Prince Fahd himself had arrived, I sat in a Land Cruiser next to the dining tent, whose vast brown folds, with intricate gold stitching, billowed in the wind. The tent was surrounded by some twenty-five security men, who stood at smart attention with their Kalashnikovs.

I sat in darkness, my head covered with the hood of my cape. It was bitterly cold. The wind was ferocious. Land Cruisers and Range Rovers began to arrive. As I waited for Prince Fahd's personal physician, whom I'd met earlier in the day, I watched Dalbandin's notables saunter toward the dining tent, where they had been invited to dine with the Prince. The visiting wildlife minister, Jam Ali Akbar, was flanked by servants and guards carrying two carpets, which were gifts for Prince Fahd. Ali Ahmed Notezai strutted like a peacock as he entered the tent. Sakhi Dost Jan, wearing his brown waistcoat and flowing white turban, shouted instructions here and there. Earlier that day, I had spoken to both men about the possibility of my meeting Prince Fahd.

"Impossible," Notezai said. "The Prince doesn't want to meet any women this time."

"I'm not a woman. I'm a journalist."

He shrugged. "It's all the same," he said.

The Prince's personal servants ferried bottles of mineral water and huge trays of food between the tents; roast lamb with dates and rice; hot nan bread; hummus; tahini; baskets of fruit. I watched two trainers open a large wicker basket near my jeep and pull out two baby houbara with clipped wings, to be used for training falcons. Carrying the birds in their left hands, they walked off, each with a falcon perched on his right wrist.

I left the jeep and stood in darkness near the entrance of the dining tent. Inside, Prince Fahd, dressed in a camel-colored woollen robe embroidered with gold thread, sat cross-legged on an Oriental carpet, receiving his guests. The floor of the *chamiana* was covered with exquisite Kashan and Persian antique carpets and rugs; bolster pillows, in silk cases sewn with gold thread, lined with walls. In a far corner, there was a network of cellular phones, and other communications equipments hooked to

a satellite dish. Behind the prince, like a ceremonial guard, thirty-five hooded falcons stood at attention. They perched on specially designed, hand-carved *mashrabiyya* stools, etched with ivory and gold. The falcons were of three different kinds—different in color, age, and size. Despite their magnificence, however, all were dwarfed by a peregrine that stood at the Prince's side, on the arm of his chief falcon trainer. She had travelled with Prince Fahd on the royal flight, and during the entire evening she never left his side.

Sakhi Dost Jan was the last of the V.V.I.P. guests to depart. He stood outside the dining tent, flanked by bodyguards and aides. He gesticulated, then shouted. A Saudi intelligence officer flailed his arms. Other Saudis came up and encircled the two men. "What is happening?" I asked one of the guards.

"Rupees, Madam," he said. "Lakhs of rupees." He rolled his eyes.

After some ten minutes of negotiations, an aide of Prince Fahd's appeared, and presented Dalbandin's godfather with two bulging leather saddlebags. Sakhi Dost smiled his toothy smile. He then got into his Range Rover and roared away.

One of the guards brought me a plate of food and a cup of tea. I looked down at the dark meat, which was surrounded by rice. "Is this the houbara?" I asked.

"Yes", he replied.

I hesitated momentarily, and then took a few bites. The meat was tough and stringy—it reminded me a bit of goat—and left a bitter aftertaste. Far from arousing amatory impulses, it had an irritating tendency to stick in my teeth. How could anyone eat five hundred of these birds a year? As I pondered the mysterious ways of the desert, Prince Fahd's physician came over to chat.

"Is it true that the houbara is an aphrodisiac?" I asked.

He looked amused, and shrugged his shoulders. "No," he replied. "It's basically a diuretic. But they *think* it's an aphrodisiac."

The howling of dogs and the chanting of mullahs woke me at dawn. No sooner had I started a fire in my tiny fireplace, in Dalbandin's government guesthouse, than one of the royal trainers whom I'd met in Quetta the previous week—I'll call him Farouq—pounded on my door. "We're taking the falcons out!" he said. I was to accompany him back to the Saudi camp.

We left the highway before we reached the main turnoff to the camp, and drove into the desert for perhaps a mile, to a spot where another trainer and a driver waited in a customized, carpeted Range Rover. Both men carried hooded falcons—one a shahin and one a saker—on their gauntleted right arms.

I was instructed to sit in the back seat of the open jeep, with the other trainer and the hooded saker, which seemed dangerously close to my left knee. Farouq — with the hooded shahin now perched on his back-gloved wrist — took the revolving bucket seat in the front. He adjusted it to its maximum height, and towered some three feet above us, in midair.

The sun was just beginning to rise, and the sky was violet-pink. All around us, the flat emptiness of the desert stretched endlessly. The silence was broken only by the wind and the grinding of the Rover's gears. From time to time, we passed black slate formations that resembled giant marshmallows burned in a bonfire.

The trainer next to me, whom I'll call Mahmud, wore sandals and bright Argyle socks. "Her name is Ashgar," he said of the hooded saker on his arm. "And she's just a year old. That is the perfect age for this particular bird."

Ashgar was extremely light in color, almost blond, and measured perhaps thirty inches from her head to the tip of her tail. White spots on the tips of her feathers, which resembled polka dots, blended quite smartly with the red leather hood and jesses she wore.

"Her talons are like steel if she grabs you. That's why we wear gloves," Mahmud said, stroking Ashgar and giving me a pleasant smile. He then told me that Ashgar was from Iran, and had been a particularly sought-after bird, not just for her color but for her "soul".

I studied the falcon more closely. A tiny solar cell, covered by glass, was attached to her tail feathers, and a thin metal aerial affixed to it rose from her feathers up the bottom of her back. It was a French-made radio transmitter, a tracking and homing device slightly larger than a watch cell; it had an especially sensitive receiver that had been devised purely for the houbara hunts. Mahmud said that the transmitter weighed about five grams and had a radius of some eight miles. It gave off a constant beep once the bird was on the wing. "If she is lost during the hunt, we can retrieve her by the next day, maximum," he said. "Even when she parks for the night, we get a constant signal in our jeeps."

"Can the transmitter be used to track a houbara?" I asked.

"Only indirectly," he replied. "If the falcon catches a houbara, the beeper tells us where they are. But, basically, we track the houbara by radar or two-way radio."

The wind became fierce as we raced across the desert at eighty miles per hour, searching for houbara tracks, and knocking down everything in our path: shrubs, bushes, even tiny trees. I glanced ahead at the driver, who was wearing goggles and a crash helmet and was bent over the wheel intently. I suspected that at one time or another he had driven a tank.

A friend had told me earlier that the Yak Much desert was more like the Middle East than anywhere else in Pakistan was; you could travel for days without seeing another human being. We had travelled for more than forty miles, and although I'd seen no human beings, I had certainly seen their traces: plastic bags, abandoned jerricans, and discarded tires. There were some areas where the hunting vehicles had so flattened everything in sight that a plane could have landed with ease.

Then Farouq shouted, "There are the tracks!"

They were unmistakably those of the houbara — three-toed footprints dotting the sand.

Farouq stroked the shahin's underbreast, whistled softly in her ear, then raised his gauntleted arm above his head. "A-hoh, a-hoh, a-hoh," he chanted, above the noise of the wind, as he removed the shahin's jesses and hood with a single quick movement of his free hand. "Strike! Strike! Strike!" The shahin cast her piercing eyes incessantly around, bobbed her head, and then lurched forward, leaving Farouq's arm. She soared into the air, her radio transmitter and aerial visible in the feathers of her tail. She flew low — barely off the ground — to conceal herself, and was often out of our sight as we raced across the desert, following her path. We were guided by her radio beeps.

"It should be four or five minutes," Mahmud said, and he explained that the shahin had extraordinary vision: she could sight for over a mile. But we raced along for twenty minutes before we spotted the shahin and a houbara, on the ground. At first, they were tiny, indistinct forms in a mustard field. Then, as we surged ahead, I lost sight of the houbara.

"There she is!" Farouq shouted.

"Where?"

Even with high-powered binoculars, I couldn't find the houbara, and it was perhaps only ten yards away, concealed and camouflaged — its contours and buff-and-sandy-gray coloring blended perfectly with the desert and the bushes and shrubs. When I finally did spot it, it was frozen behind an absurdly small bush, and uttered no sound. It was a baby, weighing perhaps two pounds. The shahin circled overhead, then swooped down, attempting to frighten the houbara off the ground. The houbara tried to enlarge itself by spreading its wings, and watched our every movement with unblinking yellow eyes. Then, in an instant, it had taken off. It darted across the desert like a roadrunner, its long legs seemed not even to touch the ground. Its tail was spread like a peacock's, and its chest was thrust out.

We raced, dashing, lurching, and jolting, in huge zigzag circles, following the two birds. Then both took to the air — an absolutely cloudless blue sky. You could distinguish the houbara by its white undersurface and wings. The shahin soared and dipped, her vast wingspan spread majestically. The houbara eluded her, and tried to gain



altitude. From time to time, the birds almost disappeared, becoming tiny, inky webs, but they were never completely out of sight — we had our high-powered binoculars in addition to our radio beeps. This hunt was a far cry from the romantic image of the lone Arab walking across the desert in his flowering robe with his pet falcon perched nobly on his arm.

The shahin soared for the sun, and came down on the houbara, attempting to break its neck. The houbara flew on furiously, and the shahin struck again. The two birds spiraled downward. We found them near a tamarisk bush, struggling on the ground. The baby houbara lay exhausted but was still trying to kick. The first thing that the shahin had done was blind its yellow eyes, so that it could not run or fly away. Farouq cut open the houbara's stomach, retrieved its liver, and fed it to the shahin. He then hooded the falcon and ritually slit the baby houbara's throat, to conform with dietary laws.

"Now it's *halal*, he said — permitted in Islam.

There was a time, Wahajuddin Ahmed Kermani, Pakistan's retired Inspector General of Forests, told me, when the houbara had been so plentiful in Pakistan that you could count them from the roadways "like butterflies in a field." But that was in the nineteen-sixties, before the great sheikhs and falconers began hunting in Pakistan.

I called on Kermani, one of his country's most respected environmentalists, at his Karachi bungalow. If any Pakistani had attempted to save the houbara, he was that man. As we sat in his drawing room one morning, sipping cups of tea, he described his efforts to save it as "the only failure of my life." He went on to say, "For a quarter of a century, the hunting has been intensive and sustained. They go through the desert like an invading army. It's slaughter, mass slaughter. They kill everything in sight."

When I asked him why the government of Pakistan had done so little to deal with the situation, he replied, "Because we lack the moral fibre and the moral courage."

Kermani applauds the efforts of Tanveer Arif, the president of the Society for Conservation and Protection of the Environment, or SCOPE, a Karachi-based group that challenged the houbara hunts' legality in the Sind High Court. "The hunts are sheer hypocrisy, and totally contrary to our laws," Arif told me one afternoon. "Since 1912, in the days of the Raj, the houbara has been a protected species. Yet, while Pakistanis are being arrested and prosecuted if they're found to be hunting the bird, Arab dignitaries are given diplomatic immunity." Although in September the Sind High Court ruled in SCOPE's favor, its decision had had little impact on the Pakistani government.

Like Kermani, Arif is deeply upset that international pressure to ban the royal hunts is not being brought to bear on the government of Pakistan. Twenty-three countries, including India, Iran, and the former Soviet Union, have legislation that protects the houbara, or bustards generally,

and in the vast majority of these countries there is a ban on all hunting.

After making my trip to Pakistan, I asked Paul Goriup, the leading houbara expert at the International Council for Bird Preservation, in Cambridge, England, whether he thought the international community was doing enough.

"International efforts are exceedingly scant," he replied. "The houbara is merely a distraction, not a priority. There's no doubt that in the Pakistani provinces of Sind and Punjab the population, which was once sizable, is now terribly diminished. Balochistan is thus the only area left that is worth hunting in — and the problem there could be severe. There's a breeding population, and if the sheikhs hunt after February" — they always do — "then it's a disaster, for they impinge on the breeding population for the next year.

"It's a stalemate in Pakistan," Goriup went on. "The Pakistanis see the Arabs breaking Pakistan's own laws, yet huge sums of money are involved. As for the Arabs, they realize that the houbara is declining outrageously, yet they continue to hunt. Still, they're worried, and I'm absolutely convinced that they would accept regulations if the regulations were there." He thought a moment, and then said, "I've maintained consistently that the houbara should be protected by the United Nations' Bonn Convention on Migratory Species, because such protection would elevate the problem to an international level. We could set up protected areas. Money would flow the right way. We must restore habitats and breeding grounds. This is the only way the houbara can be saved."

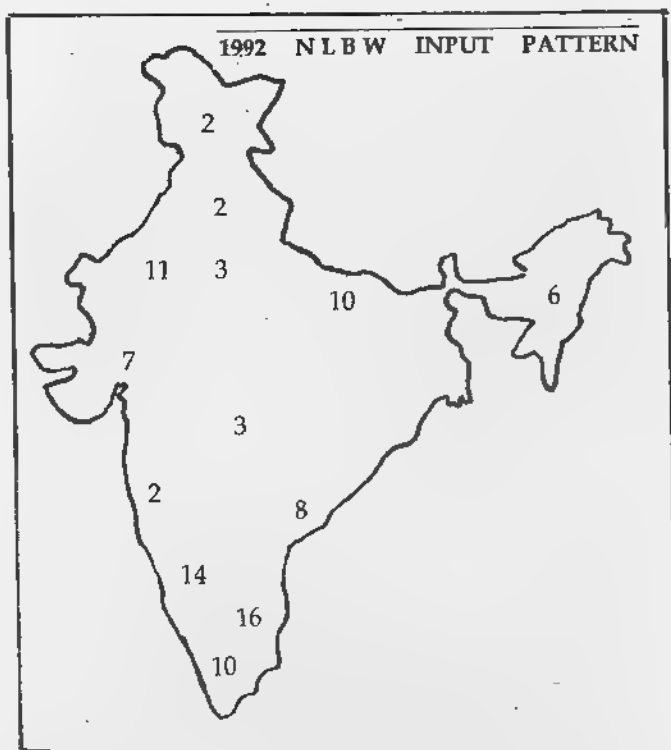
*Courtesy: The New Yorker, Dec. 14, 1992*

## CORRESPONDENCE

**COMMENTS ON THE NLBW INDEX,**  
DR. ARUNACHALAM KUMAR, *Professor of Anatomy,*  
*Kasturba Medical College, Mangalore 575 001*

In response to the invitation for comments on the recently published NLBW Index: Vol 32: No.1-12, 1992 prepared by Aasheesh Pittie, I am sending some observations that may interest, both the reader and editor of the Newsletter. It is my hope that the editorial board will find the analysis herein useful enough to make this type of presentation an annual feature.

Observations made on the input of papers (articles, sightings, correspondence) excluding editorial comments and newsfeatures, from the Volume 32 index shows that the maximum feeder state for the Newsletter was Tamilnadu, with 17% contribution to data published. The four Southern states, Tamilnadu, Karnataka, Kerala and Andhra Pradesh together contributed 46% of the input. The papers from west zone are insufficient, especially from Maharashtra, a veritable crucible of avifaunal wealth. Some states, particularly from the east and northeast have no



inputs at all. Bengal, Bihar, Orissa among others have not placed themselves in the reckoning in 1992.

It would make an educative graph, were the editorial board, to analyse, the inputs from various zones and states of India, and statistically interpret them.

The Deccan Plateau, and the Ghats, both eastern and western, indeed, peninsular India appears to be very vocal in the NLBW. Perhaps the locale of publication of the journal, and its easy accessibility to southern populations, does have a bearing on the input ratio. Allow me, though, to congratulate the author of the index: it was much needed.

**SCAVENGING BY CATTLE EGRET.** SALIM JAVED, Centre of Wildlife and Ornithology, Aligarh Muslim University, Aligarh 202 002, India

On 25th January 1993 while driving down from Dudwa National Park to Aligarh, a cattle egret *Bulbulcus ibis* was seen scavenging on a dog killed in a road hit just 10 km before Bareilly on Shahjahanpur-Bareilly highway.

The cattle egret was scavenging in the company of crows and was observed for few minutes while it actively scavenged the carcass. Though Cattle egrets normally feed on small insects, tadpoles, crustacean, and molluscs; and young ones of small birds are also reported in their diet (Ali & Ripley 1983; Hancock & Kushlan 1984); there is no report of scavenging by this species.

#### References :

- Ali, Salim & S.D. Ripley (1983): Handbook of the birds of India and Pakistan, Compact edition, Oxford University Press, New Delhi.  
Hancock, J. and J. Kushlan (1984) : The Herons Handbook, Croom Helm, London & Sydney.

#### SOME OBSERVATIONS ON BREEDING OF EASTERN SKYLARK. SALIM JAVED, Centre of Wildlife and Ornithology, Aligarh Muslim University, Aligarh 202 002

The Eastern Skylark *Alauda gulgula* is a resident bird of the Indian subcontinent and is widely distributed throughout the Plains and foothills. On 30th May 1992 while walking in the grassland of Sathiana region in Dudwa National Park, (28°18' and 28°42' N and 80°28' and 90°27' E) I observed a nest of a small skylark *Alauda gulgula* in a clump of munj grass, *Saccharum munja*. The nest was seen in the forenoon of 29th May also but there were no eggs in it though the bird was there. On 30th May three eggs were seen in the nest. The eggs were bluish white with brownish blotches. The nest was a cup like structure lined with grass and placed at the base of *Saccharum munja*, a common grass species of the area. The nest was regularly visited and observed from a distance. On 11th June 1992 one egg hatched while the other two were still being incubated. The nest was visited till 14th June and both the unhatched eggs were still there along with the nestling. The nest was found deserted when it was visited again on 17th June. Ali & Ripley (1983) have described the breeding of eastern larks but there are no reports of the incubation period. As I visited the nest regularly from 29th May to 11th June till the first egg hatched, it seems to me that the incubation period could be 14 days if the eggs were laid in the afternoon of 29th after my visit, or 13 days if it is taken from 30th May. Though one observation is not enough to determine the incubation period, this observation is of some value.

#### Reference :

- Ali, S & S.D. Ripley (1983) : Handbook of the Birds of India and Pakistan, Oxford University Press, New Delhi.

#### ADDITIONS TO THE CHECK LIST OF KOTA. SHANTANU KUMAR, I.G.P./R.A.C., Police HQ, Jaipur

The following bird species may be added to the recently published checklist of the birds of Kota in NLBW Vol.32, No.11-12.

##### 1. Oriental Hobby (*Falco severus*) —

In 1986, I photographed an Oriental Hobby at the House of Dy. I.G.P., in Kota on a pruned tree stump. They come out late in the evening for the pipistrelle bat, which abound in the Civil Lines. These beautiful and agile raptors can also be seen if one happens to travel by boat upstream from Kota barrage towards Jawahar Sagar, where the stream flows through a canyon.

##### 2. Greater spotted Eagle (*Aquila clanga*) —

Seen on 10th December '86 and every day for several days at Ummedganj in the vicinity of the wetland. During

this period, I once saw it catch a morhen by swooping low and suddenly dropping into the reeds.

### 3. Honey Buzzard (*Pernis ptilorhyncus*) —

There are several around the circuit house and Ummed Bhawan within Kota city. They can be seen soaring every day in the morning. I have seen these raptors even during summer and have reason to believe that they probably breed here.

### 4. Greyheaded Flycatcher (*Culicicapa ceylonensis*) —

I have observed plenty of them within the city limits of Kota and the Civil Lines has them in plenty. Their calls and intense feeding activity make them easily noticeable early in the morning. At the Circuit House, there must be at least ten birds in the mangos.

## COMMENTS ON THE KOTA BIRDS CHECKLIST.

SURESH C SHARMA, Gokal Nagar, Rohtak Road, Sonapat 131 001 (Haryana)

This is with reference to the 'Checklist of the Birds of Kota District in South-East Rajasthan' by Rakesy Vyas, published in Vol. 32, Issue No.11 & 12 of Newsletter for Birdwatchers.

I along with Urfi and RK Bhutani had visited the Sorsan Bustard area of Kota district in July 1989 on the invitation of Mr Bharat Singh of Kundanpur village. The Sorsan Bustard area of Kota district was surprisingly rich in birdlife. Some of the birds we had recorded have not been mentioned in the Checklist. These are :-

1. Lesser Florican. Our sighting of this bird was confirmed by Mr Asad Rahmani. Mr Bharat Singh had also seen it there and even photographed it.
2. Little Bustard Quail. These were in plenty in the grassy land. We managed to take photographs. Crows were trying to attack these small creatures, and we saw a few wounded birds.
3. Rain Quail. These quails were remarkably conspicuous by their 'wit-wit' calls. Courtship dance was also noticed.

'Darter' has been mentioned as an occasional bird in the checklist, whereas in July 1989 we had seen four live nests of Darters on a peepal tree near Kundanpur village.

**RESCUING A SHAHIN.** S. MOHAMMED ALI, Wildlife Preservation Society, Mettupalayam 641301 (TN) and T.R.K. YOGANAND, Salim Ali School of Ecology, Pondicherry 605 014

30 km South West of Coimbatore city is the Siruvani Hills (11°N, 76° 40'E) which has been designated as



corezone of the Nilgiri Biosphere reserve! The hills have undisturbed tracts of Evergreen and Semi-evergreen forests. On the fringes of the hills are cultivated lands interspersed with coconut and mango trees. An afternoon of last October, one person aimed at a bird sitting on a coconut tree, with a .22 rifle. Unfortunately he didn't miss his target.

The next day we came to know about it and went to see the bird, in a junk shop in one of the narrow lanes of Western Coimbatore. It was crouching in agony with broken left wing, unable to fly. We brought it home and treated the wound. The third week, the wound healed and we could see it fluttering, and nodding its head it tried imitating the call of the RR Parakeets (kecak, keekak) which were flying past over its cage on our terrace.

Since the day it became our guest, it was devouring about 200 gms of fresh beef (which is all we could afford) daily. It was identified as Shahin Falcon (*Falco peregrinus peregrinator*).

Even after 42 days of treatment it was not able to fly. So we gave the bird to the Coimbatore Zoo to be taken care of. Even now we don't forget to pay a visit to it, whenever we happen to go to Coimbatore.

**REHABILITATION OF BIRDS : EXPERIENCES.**  
DR ARUNACHALAM KUMAR, Professor of Anatomy, K.M.C., Mangalore 575 001, State Committee Member, WWF-India, Karnataka

Following a very well received 'Workshop on Avifauna' sponsored by the WWF-India (Karnataka), interest in birdwatching is gaining acceptance as an educative and constructive social activity. The 1990 workshop gave a definite fillip to a much disorganized nature lovers movement in the district, blessed with a verdant green cover. Flush the eastern fringes of the Western Ghats, the South Kanara district, and its administrative capital is haven for the serious bird watcher and his ilk. The shoreline is rich in wetland and waterfowl, the hinterland (when not under inundation under 250-300 cm of monsoon) is home to a wide representation from the archives of subcontinental avifauna.

One of the unexpected, yet welcome spin-offs from the workshop, is the setting up of an amateur bird rehabilitation centre in Mangalore. The makeshift clinic was set into motion by me, after a post-workshop telephone call to save an injured bird, an owl. The subadult Barn Owl (*Tyto alba*), had had its leg broken by a stone hurling group of urchins at the city bus stand. I retrieved the bird amidst much remonstrance and forebodings from the superstitious mob, which like many other such in other parts of India, firmly believes that owls are harbingers of doom. A very sympathetic autorickshaw driver drove me home with the bird, after many others in the stand refused to take me in their vehicles, with the very obvious omen of disaster in my custody. A widely featured article in a popular local newspaper in Kannada, of the incident, brought me many unsolicited accolades, and many distress calls from many a resident of the city on the sighting of one orphaned or maimed bird or the other. The fairly rapid periodicity of calls from concerned individuals, led me to deployment of a small 'rescue and rehabilitation' team of volunteers, who besides retrieving aves, also used the visit to educate the public on our feathered friends. Over the past 24 months, I and my group have rescued 23 birds. Observations on the identify, nature of cause of injury (if any), treatment required for rehabilitation, maintained on this effort is presented here. Many of birds, however, were not in need of any active intervention, medical or otherwise, except a feeding and rest. Many too were subadults mobbed by crows along their journey into independence of adulthood.

Undoubtedly, my knowledge of therapeutics coupled with my understanding of bird anatomy (and embryology), acquired as part of my postgraduate qualifying degree, was of immense help in this very frustrating, yet rewarding mode of service to nature. The enthusiasm of school children, bringing to me, cotton lined shoeboxes, with a tender fledgling or two, for treatment was touching; as was the responsibility often offered by the child's parent to feed and minister to the maimed bird, at home, under guidance and advice.

Statistically, I would like the rate of mortality, which presently stands at 47.8% to be pegged down. This could perhaps be achieved through better understanding of avian pharmacotherapeutics, especially of feeding techniques in uncooperative winged patients. I would be indebted to anyone with experience in these matters to let me know more. In my limited experiment, I find recovery rate among raptors is remarkable. In fact many kites I have handled

have even responded to oral commands, and fly over to specific spots in my room, for feeding.

I have been encouraged in this nascent endeavour by the Chairman of WWF, Sri MA Parthasarathy and Sri KA Bhoja Shetty, the Karnataka unit Director, the latter in particular ever enquiring on the medical status of an avian "Oliver Twist" or two. Thanks too, to my patient wife, who has to overcome many a vegetarian prejudice whilst mincing beef for the resident raptor. The whole exercise costs me only about Rs.100 per month (this does not, of course include (the missus prods me to add), the cost of detergents and disinfectants, that are liberally doused in the 'clinic' on the domestic budget).

Identity	Nos.	Treatment for	Outcome
Blue Rock Pigeon	1	hit by fan	dead in 1 hr.
Barn Owls	2	astray/fracture	1 death
Scops Owl	1	mobbing	released fit
Pariah Kites	6	fall/fractures	5 recoveries
Bulbuls	2	orphaned	both released
Sunbirds	2	nest destroyed	1 released
Small Green Barbet	1	dog bite	dead
Coppersmith Barbets	3	fall from nest	all 3 dead
Koels	2	mobbing	1 released
Chestnut Bittern	1	glass crash	released
Whitebreasted Waterhen	1	car accident	dead
Brown Hawk Owl	1	collision	dead

#### Note:

One Kite had a complete above knee amputation which had healed well before release. The Brown Hawk Owl had crashed into a motorcyclist's helmet on its nocturnal foray. The treatment/rehabilitation periods ranged from less than a few minutes (where the prognosis was poor) to a full 30 days. Birds with body injuries recover less from trauma, than those with lesions on wings or legs. I had constructed a splint for a fractured leg on a barn owl, but the bird managed to break the cast free after 24 hours.

#### NAMES OF THE BIRDS. ASHOK KUMAR, B-5/22, Safdarjung Enclave, New Delhi 110 020

There are three birds with names beginning with Brahminy – the duck, the kite and the mynah. Can any one tell me the reason why these are called Brahminy? I have made several guesses; the most improbable being that the Brahminy mynah has a tuft of hair at the back of the head reminiscent of the sacred pig tail (choti) sported by male Brahmins. But even if the imagination is vastly stretched in this manner, it will still not explain the other two names. Who gave these names, when and for what reason?

Cover : Crimson-breasted Barbet or Copper Smith (*Megalaima hemacephala*). This arboreal frugivorous bird has a loud, monotonous call 'tuk-tuk-tuk', similar to a coppersmith hammering on metal at a distance. When calling, the bird moves the head from side to side, producing a curious ventriloquial effect. During spring the barbet pair bores a nest, a neat round hole, in the branch of a tree.

Photo: S. Sridhar, ARPS.

Editor : ZAFAR FUTEHALLY, No.2205, Oakwood Apartments, Jakkasandra Layout, Koramangala 3rd Block, 8th Main, Bangalore 560034

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